

REMARKS

This is in response to the Office Action dated July 23, 2010. In view of the above amendments and the following remarks, reconsideration of the rejections and further examination are requested.

By this amendment, claims 1, 4, 6, 7, 9, 10, 12, 14, 16, and 17 have been cancelled without prejudice or disclaimer to the subject matter therein, and new claims 18-22 have been added. New claims 18, 19, 20, 21, and 22 correspond to cancelled claims 1, 7, 12, 14, and 16, respectively. The subject matter of cancelled claims 4 and 6 has been incorporated into new claims 18, 20, and 21. The subject matter of cancelled claim 10 has been incorporated into claims 8, 13, and 15.

Rejection under 35 U.S.C §103(a):

Claims 1, 4, 6-8, and 12-17 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Okada (US 6,148,140) in view of Chang (US 7,289,564). Claims 1, 7, 12, 14, and 16 correspond to new claims 18, 19, 20, 21, and 22. This rejection is submitted to be inapplicable to the claims for the following reasons.

I. Claims 8, 13, 15

It is noted that the Examiner has relied upon Asai (US 6,710,785) as disclosing the features of claim 10 (see Office Action, page 9, item 8), which have been incorporated into independent claims 8, 13, and 15. For this reason, arguments distinguishing independent claims 8, 13, and 15 over the combination of Okada, Chang, and Asai are presented below.

Claim 8 recites:

display order information for each picture, where the display order information for each picture is a picture order count (POC) and has a value indicating the display order of the respective pictures; and

a decoding method comprising:

extracting a flag indicating where the values of the display order information are non-sequential; and

managing a storage memory area for storing a decoded picture based on the flag, wherein

clip information is given to the decoded picture, said clip information being updated when the flag is extracted, and

a picture whose position is earliest in a display order among the decoded pictures stored in the storage memory area is determined as a picture to be removed, based on the display order information and clip information.

Thus, claim 8 recites the following features: (i) a flag indicating a position where the values of the display order information are non-sequential, where the display order information for each picture is a picture order count (POC) and has a value indicating the display order of the respective pictures, wherein (ii) a picture whose position is earliest in a display order among the decoded pictures stored in the storage memory area is determined as a picture to be removed, based on the display order information and the clip information. The combination of Okada, Chang, and Asai fails to disclose or suggest the above features as recited in claim 8.

The Examiner has specifically relied upon Asai as disclosing a picture whose position is earliest in a display order among the decoded pictures stored in the storage memory area is determined as a picture to be removed, based on the display order information and the clip information (see Office Action, page 9, item 8).

According to Figure 17 of Asai, clips can be sorted in two possible ways. First, clips can be sorted in a "selected order," where the CPU sorts the clips, but maintains the order of the clips as selected (see col. 12, lines 45-47). Second, clips can be sorted in a time sequence, where the CPU sorts only the order-sensitive clips in an order of time, while maintaining the order of the rest of the clips (see col. 12, lines 63-67). The portion of Asai cited by the Examiner discusses sorting in the "selected order."

Sorting based on the "selected order" is a sorting function where, after the sort command is executed, scenes which have been selected by a user are disposed at the beginning of the scene display area 43, and unselected scenes are disposed after the sorted scenes (see col. 12, lines 31-39). This is accomplished by filling the selected order fields 528 of the scene table 520 with "1," when the record is created, and updating the record each time a selection or un-selection command is executed (see col. 12, lines 48-51). Specifically, in an un-selection operation the CPU decrements the value of the selected order fields 528 whose values are larger than that of

the specified scenes and writes a "0" in the selected order fields 528 of the specified scenes (see col. 12, lines 52-57). This enables clip sorting in the selected order.

Thus, Asai discloses a record that is updated each time a selection or un-selection command is executed so that scenes that have been selected can be moved to the beginning of the scene display area. However, Asai does not disclose or suggest that a picture whose position is earliest in a display order among the decoded pictures stored in the storage memory area is determined as a picture to be removed, based on the display order information and the clip information, as recited in claim 8.

Furthermore, the Examiner has acknowledged that Asai does not disclose or suggest a flag indicating a position where the values of the display order information are non-sequential, where the display order information for each picture is a picture order count (POC) and has a value indicating the display order of the respective pictures, and has relied upon the combination of Okada and Chang as disclosing this feature (see Office Action, pages 3-5, item 6). However, the combination of Okada and Chang also fails to disclose or suggest the above discussed feature as recited in claim 8.

Okada discloses a seamless flag that indicates to the video data editing apparatus whether seamless reproduction should be performed. As shown in Figure 12A, each of the VOBs in the Real-Time Rewriteable (RTRW) management file contains seamless linking information (see col. 26, lines 10-15) which is information that enables the consecutive reproduction of the VOBs to be performed seamlessly (see col. 26, lines 46-49). This seamless linking information includes a seamless flag (see col. 26, lines 49-50) that indicates to the video data editing apparatus whether the VOB corresponding to the present seamless linking information should be reproduced seamlessly following the end of reproduction of the VOB positioned immediately before the present VOB in the AV file (see col. 26, lines 56-61). When the flag is set to "01", the video encoder reproduces the VOB seamlessly (see col. 26, lines 61-62). When the flag is set to "00", the video encoder does not reproduce the VOB seamlessly (see col. 26, lines 63-64). Thus, Okada merely discloses a flag, contained as part of the seamless linking information within each VOB, which indicates to the video encoder whether to reproduce video seamlessly or not.

The Examiner has acknowledged that Okada fails to disclose that the values of the display order information for the pictures are sequential or non-sequential, and relies on Chang

as disclosing this feature (see Office Action, page 4, paragraph 4). However, as discussed below, Chang also fails to disclose or suggest the above feature as recited in claim 8.

Chang discloses a video encoding method with support for editing a scene change. In the method of Chang, a scene change detecting function is used to detect the scene change, because the encoder must know where the scene changes so it can encode the pictures before and after the scene change into two distinct groups of pictures (GOPs) (see col. 3, lines 49-55). Once a scene change is detected, the encoder encodes the pictures based on the type and position in a GOP of the coded pictures (see col. 3, lines 57-60). However, the method disclosed in Chang groups GOPs based on the content of the video that is being displayed, and not based on independent display order information such as a picture order count.

For example, a character's flashback would be grouped into a different GOP than the scene immediately before the flashback, because the displayed content is different between the two scenes (i.e., past vs. present). This non-sequential grouping of Chang is different from the display order information recited in claim 18 in that, when a character has a flashback, the scene changes to an earlier time, but the display order information of the video does not change to earlier values. Instead, display order information is sequentially assigned independently of the content of the video. As discussed above, Chang merely discloses encoding GOPs based on scene changes in a video, and not based on independent display order information.

Therefore, the combination of Okada and Chang does not disclose or suggest a flag indicating a position where the values of the display order information are non-sequential, where the display order information for each picture is a picture order count (POC) and has a value indicating the display order of the respective pictures, as recited in claim 8.

Accordingly, no combination of Okada, Chang, and Asai would result in the features of (i) a flag indicating a position where the values of the display order information are non-sequential, where the display order information for each picture is a picture order count (POC) and has a value indicating the display order of the respective pictures, wherein (ii) a picture whose position is the earliest in display order among the decoded pictures stored in the storage memory area is determined, based on the display order information and the clip information, as a picture to be removed, as recited in claim 8. As a result, claim 8 is patentable over the combination of Okada, Chang, and Asai.

Claims 13 and 15 both recite (i) a flag indicating a position where the values of the display order information are non-sequential, where the display order information for each picture is a picture order count (POC) and has a value indicating the display order of the respective pictures, wherein (ii) a picture whose position is earliest in a display order among the decoded pictures stored in the storage memory area is determined as a picture to be removed, based on the display order information and the clip information. Therefore, for at least reasons similar to those discussed above with regard to independent claim 8, claims 13 and 15 are patentable over the combination of Okada, Chang, and Asai.

As a result, claims 8, 13, and 15 are allowable over the combination of Okada and Chang.

II. Claims 18-22

Claim 18 recites:

display order information for each picture, where the display order information for each picture is a picture order count (POC) and has a value indicating the display order of the respective pictures; and

a coding method comprising generating a flag indicating that the values of the display order information are non-sequential, when the values of the display order information are non-sequential, wherein

the flag is inserted between two pictures in the coded stream, said two pictures being non-sequential in display order.

Thus, claim 18 recites the following features: (i) a flag indicating that the values of the display order information are non-sequential, where the display order information for each picture is a picture order count (POC) and has a value indicating the display order of the respective pictures, wherein (ii) the flag is inserted between two pictures in the coded stream, said two pictures being non-sequential in a display order. The combination of Okada and Chang fails to disclose or suggest the above features as recited in claim 18.

As discussed above, the combination of Okada and Chang does not disclose or suggest a flag indicating that the values of the display order information are non-sequential, where the display order information for each picture is a picture order count (POC) and has a value indicating the display order of the respective pictures, as recited in claim 18.

Furthermore, the combination of Okada and Chang does not disclose or suggest that the

flag is inserted between two pictures in the coded stream, said two pictures being non-sequential in a display order.

The Examiner relies on Okada as disclosing the above feature of claim 18 (see Office Action, page 5, paragraph 2). As discussed above with regard to claim 8, Okada discloses a seamless flag that indicates to the video data editing apparatus whether seamless reproduction should be performed. As shown in Figure 12A of Okada, the VOB information in the Real-Time Rewriteable (RTRW) management file contains seamless linking information (see col. 26, lines 10-15) which is information that enables the consecutive reproduction of the VOBs to be performed seamlessly (see col. 26, lines 46-49). This seamless linking information includes a seamless flag (see col. 26, lines 49-50). The RTRW management file contains (i) VOB general information, (ii) stream attribute information, (iii) a time map table, and (iv) seamless linking information, which contains the seamless flag (see col. 26, lines 11-15). The video stream consists of multiple sets of GOPs (groups of pictures) which together make up the VOB (see Figure 6A). Each VOB has separate corresponding VOB information maintained in the RTRW management file (see col. 26, lines 2-4). This separate VOB information is inserted adjacent to its corresponding VOB in the file system (see Figure 4A).

Thus, in Okada the VOB information, which contains a seamless flag, is arranged separately from its corresponding VOB in the file system. Therefore, Okada fails to disclose or suggest that the flag is inserted between two pictures in the coded stream, said two pictures being non-sequential in a display order.

Accordingly, no combination of Okada and Chang would result in the features of (i) a flag indicating that the values of the display order information are non-sequential, where the display order information for each picture is a picture order count (POC) and has a value indicating the display order of the respective pictures, wherein (ii) the flag is inserted between two pictures in the coded stream, said two pictures being non-sequential in a display order, as recited in claim 18. As a result, claim 18 is patentable over the combination of Okada and Chang.

Claims 20 and 21 both recite (i) a flag indicating that the values of the display order information are non-sequential, where the display order information for each picture is a picture order count (POC) and has a value indicating the display order of the respective pictures, wherein (ii) the flag is inserted between two pictures in the coded stream, said two pictures being non-sequential in a display order. Therefore, for at least reasons similar to those discussed above

with regard to independent claim 18, claims 20 and 21 are patentable over the combination of Okada and Chang.

Claims 19 and 22 are dependent on independent claim 18. As a result, claims 18-22 are allowable over the combination of Okada and Chang.

III. Claim 11

Claims 9 and 11 under have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Okada (US 6,148,140) in view of Chang (US 7,289,564) and further in view of Teo (5,621,464). Claim 9 has been cancelled. This rejection is submitted to be inapplicable to claim 11 for the following reasons.

Claim 11 is dependent on independent claim 8 discussed above in detail.

It is apparent that Teo fails to disclose or suggest the features lacking from the combination of Okada and Chang discussed above with regard to independent claim 8, nor has the Examiner relied on Teo as disclosing such features. Accordingly, no obvious combination of Okada, Chang, and Teo would result in, or otherwise render obvious under 35 U.S.C. §103(a), the features recited in claims 8 and 11. Therefore, claims 8 and 11 are patentable over the combination of Okada, Chang, and Teo.

IV. Conclusion

Because of the above-mentioned distinctions, it is believed clear that claims 8, 11, 13, 15, and 18-22 are allowable over the references relied upon in the rejections. Furthermore, it is submitted that the distinctions are such that a person having ordinary skill in the art at the time of the invention would not have been motivated to make any combination of the references of record in such a manner as to result in, or otherwise render obvious, the present invention as recited in claims 8, 11, 13, 15, and 18-22. Therefore, it is submitted that claims 8, 11, 13, 15, and 18-22 are clearly allowable over the prior art of record.

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance. The Examiner is invited to contact the undersigned by telephone if it is felt that there are more issues remaining which must be resolved before allowance of the application.

Respectfully submitted,

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